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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,969	12/19/2001	Maciej Glowacki	10541/598	4858

7590 01/21/2003

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EXAMINER
THOMPSON, KENNETH L

ART UNIT	PAPER NUMBER
3679	

DATE MAILED: 01/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/024,969	GLOWACKI ET AL.	
	Examiner	Art Unit	
	Kenn Thompson	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-26 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-26 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 19 December 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,4 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brissette, U.S. 4,460,182 in view of Smith, U.S. 5,525,112.

Regarding claims 1 and 22, Brissette discloses in figures 1-9 a combination of a seal and a shaft for communicating torque in a vehicle (col. 1, lines 29-56). Brissette discloses a shaft (10) including a first (12) and second (14) members each having squared portions (28,34). Brissette discloses the second member (14) being telescopically resident within the first member (12; col. 3, lines 3-5). Brissette discloses the squared portion (28,34) of the first member cooperating with the squared portion of the second member thereby allowing the first and second members to cooperatively form the shaft (fig 1). Brissette discloses a seal (16) including a first squared inner portion (66) having a first diameter (generally indicated at 44) and a second squared inner portion (60) having a second diameter (generally indicated at 56). Brissette discloses the first diameter of the first squared inner portion of the seal is larger than the second diameter of the second squared inner portion of the seal (fig 6). Brissette discloses at least a part of the squared portion (28) of the first member (12) is resident

within the first squared inner portion (66) of the seal; and at least a part of the squared portion (34) the second member (14) is telescopically resident within the second squared inner portion (60) of the seal. Brissette discloses other cross sectional geometries for the shaft; such a hexagonal (col. 1, lines 38-40). Brissette discloses does not disclose use of splines. Smith teaches in figure 3 use of splines (21b, 25a) on telescoping drive shafts (20) to increase torque capacity of the drive shaft. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the squared telescoping shafts disclosed by Brissette to be splined as taught by Smith to increase torque capacity of the drive shaft.

As to claims 2 and 16, Brissette discloses in figure 6 the seal is one piece.

As to claims 3 and 17, Brissette discloses the seal is any suitable material such as neoprene rubber (col. 3, lines 18-26). Brissette does not disclose plastic. However it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

As to claims 4 and 18, Brissette discloses the seal is flexible (col. 2, lines 15-16).

As to claim 5, Brissette discloses the first (12) and second members (14) have respective diameters (36,30) of approximately a same respective value. Brissette discloses each of the first (28) and second (34) respective splined portions have a respective length of about three times the value of the respective diameter of the first member (col. 1, lines 41-45).

As to claims 6 and 23, Brissette discloses the first and second splined inner portions (66,60) of the seal are fit around at least a part of the respective splined portions (28,34) of the first and second members utilizing preload force (col. 3, lines 43-46).

As to claims 7, 8, 9, 19 and 24, Smith teaches in figure 4, use of a garter-ring spring (32) molded within at least one of the first and second splined inner portions of a seal (30,30c) providing preload force towards at least one of the respective splined portions (21b) of the first (25) and second (21) members (col. 5, lines 43-48).

As to claims 10, 20 and 25, Brissette discloses one of the first and second splined inner portions (66,60) of the seal is secured to one of the respective splined portions of the first and second members (12,14) of the drive shaft utilizing a clamp (col. 1, lines (53-56).

As to claim 11, Brissette discloses the clamp is secured around one of the first and second splined inner portions of the seal providing force towards one of the respective splined portions of the first and second members of the driveshaft (col. 1, lines 53-56; col. 3, lines 38-46).

As to claim 12, Brissette discloses the first splined inner portion (66) of the seal is air-tightly fit around at least a part of the splined portion (28) of the first member (12); and the second splined inner portion (60) of the seal is air tightly fit around at least part of the splined portion (34) of the second member (14; col. 3, lines 43-46).

As to claim 13, Brissette discloses the first splined inner portion (66) of the seal is secured to an end of the splined portion of the first member (28); and the splined portion

of the second member (34) is telescopically resident within the second splined inner portion (60) of the seal.

As to claims 14 and 21, Brissette discloses the first (12) and second (14) members of the drive shaft and the first and second splined inner portions of the seal are generally cylindrical (col. 1, lines 38-56; hexagonal is generally cylindrical).

Regarding claim 15, Brissette discloses a seal (16) including a first squared inner portion (66) having a first diameter (generally indicated at 44) and a second squared inner portion (60) having a second diameter (generally indicated at 56). Brissette discloses the first diameter of the first squared inner portion of the seal is larger than the second diameter of the second squared inner portion of the seal (fig 6). Brissette discloses the first and second squared inner portions (66,60) of the seal are each adapted to be fitted around at least a part of the squared portions (34,28) of the respective tubes of a double-tube telescopically resident squared drive shaft. Brissette discloses other cross sectional geometries for the shaft; such a hexagonal (col. 1, lines 38-40). Brissette discloses does not disclose use of splines. Smith teaches in figure 3 use of splines (21b, 25a) on telescoping drive shafts (20) to increase torque capacity of the drive shaft. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the squared telescoping shafts disclosed by Brissette to be splined as taught by Smith to increase torque capacity of the drive shaft.

As to claim 26, Brissette discloses the first member (12) is adapted (via 20) to couple with a transmission of a vehicle, and second member (14) is adapted to couple (via (24) with a differential of the vehicle (col. 1, lines 13-20).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Craig et al., U.S. 6,193,612 and Rabeson, U.S. 3,063,266 disclose a similar drive shaft. Pendleton, U.S. 4,215,869 and Joyner, U.S. 4,153,260 disclose a similar seal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenn Thompson whose telephone number is 703 306-5760. The examiner can normally be reached on 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on 703 308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are 703 305-7687 for regular communications and 703 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-2168.

KT
January 15, 2003

Lynne H. Browne
Supervisory Patent Examiner
Group 3600